TECHNICAL NOTE
IMPLMENTING
A MULTI-LAYERED NUTRIENT MANAGEMENT SYSTEM
ON CROPLAND

The NRCS conservation practice standard for Nutrient Management (Code #590) establishes the requirements for designing nutrient management systems. This standard incorporates the requirements specified by State of Virginia regulations and the procedures and criteria established by the Department of Conservation and Recreation in the Nutrient Management Handbook (DCR).

Nutrient management plans, like any other natural resource plan, will be diverse and fluid documents. Variables such as landowner (producer) objectives, soil types, manure sources, and crop rotations all play key roles in the design of a nutrient management system. As these variables change, so to will the plan. Producer objectives are the most critical variable in the planning and implementation of a system. Operator commitment to carry out the plan and perform the necessary management techniques and tasks is vital to the success of a system. Some operators are willing and eager to devote the time and effort necessary to manage these systems properly; others are content to meet bare minimum requirements.

Incentive payments, cost share assistance, tax credits or other financial instruments can be important measures to facilitate the development and implementation of nutrient management systems and plans, encourage additional techniques within those systems and insure long term adoption of these systems through plan revisions. The adoption of key techniques are important milestones to achieve a minimum level of environmental protection. This Technical Note seeks to define, for use in Virginia, these key techniques in a multi-level tiered approach directed toward implementation. Financial incentives can be used to encourage producers to adopt more techniques and raise their operation to a higher level of management and a resulting higher layer of environmental protection. In addition, this Note provides guidance on the minimum reporting requirements for recording adoption into the NRCS Progress Reporting Management System (PRMS).

GUIDENCE

A. PLANNING:

The Nutrient Management standard (Code #590) will be used as the basis for the development of all NRCS nutrient management activity. Plans prepared must meet the criteria established by the Department of Conservation and Recreation (DCR) and be signed by a planner certified by DCR.

Nutrient Management (Reporting Code 590P) will be the reporting code used for preparation of conservation plans and revisions. All plans must meet the requirements listed above.

B. APPLICATION

A multi layer tiered system of implementation for applying nutrient management plans will be as follows:

LEVEL A (Reporting Code #590A) will be used to define a minimum level of implementation. Required items are:

- FOR ALL NUTRIENT SOURCES:

  - Nutrient Management Plan – Must be current (within 3 years old) and have been developed by a certified nutrient management planner. Must meet NRCS Nutrient Management Practice #590 standard and must be reviewed at least annually by the certified planner and updated as needed to match planned crop rotations.

  - Current Soil Samples – Must be current (within 3 years old and represent all fields covered under the plan.

LEVEL B (REPORTING CODE #590B) will be used to define a level of treatment that involves the adoption of the following requirements:

- FOR FIELDS RECEIVING MANURE OR BIOSOLIDS

  - Level A
  - Manure or Biosolids Testing – At least annually, in accordance with an updated nutrient management plan and completed by a DCR approved laboratory. The plan will be modified to include the most recent actual analysis from the sample.
  - Timing of Manure or Biosolids Application – Follows a spreading schedule as part of a nutrient management plan (approved DCR schedule) and applies manure no sooner than 30 days before planting or during the active growing season for forage in rotation cropping systems.
  - Any one additional technique from the list below.

OR

- FOR FIELDS RECEIVING COMMERCIAL FERTILIZER

- Phosphorous Based Fertilizer Management – For commercial fertilizer applications to be made using Virginia Tech Values recommendations based

on current soil tests. This does not allow for any over application of phosphorous even in starter applications over the amount specified by soil test recommendations.

- Split Application of Nitrogen – Application of commercial N on environmentally sensitive sites as defined in the DCR *Nutrient Management Certification Regulations* (high leaching index soils, shallow soils, drained (tiled) fields, etc.).
- Any one additional technique from the list below.

LEVEL C (Reporting Code #590C) – This will be used to define the highest level of treatment that involves the adoption of the following requirements:

- FOR ALL NUTRIENT SOURCES

- Level A
- Level B
- Any two additional techniques (total of three) for the list below.

NUTRIENT MANAGEMENT PRACTICE TECHNIQUES

- Phosphorous Based Manure Application – Manure application rates calculated from Virginia Tech Values based on soil test for phosphorous for all fields (regardless of P-Index or crop removal rates allowed under regulations).
- Manure Incorporation – Manure is injected or incorporated into the soil within 24 hours of land application.
- Soil Nitrate Test - Fall test for small grain – Nutrient applications are made and plan adjusted based on soil nitrate levels.
- Soil Nitrate Test - Spring test for side dress Nitrogen (N) application for corn – Nutrient applications are made and plan adjusted on soil nitrate levels.
- Trap Crop – planting of a small grain cover crop in a timely (early) manner to scavenge residual soil nutrients. Must be planted according to the dates found in the NTCS Virginia Planting Establishing Guide (FOTG).
- Split Application – split commercial application of nitrogen to all fields according to DCR guidelines,
    - Or

  The use of a nitrification or Urease inhibitor
- Small Grain Tissue Testing – Test results are used to verify (adjust as appropriate) fertilizer recommendations.
- Injection – Injection of side dress applications of Nitrogen (N) on corn.
- Precision Farming – Use of variable rate nitrogen fertilizer application equipment based on yield monitoring data and/or soil survey information that identifies management zones within fields. The management zones and actual nutrient rates applied must be consistent with the nutrient management plan.

PLAN AND CONTRACT DEVELOPMENT

Each of the above reporting codes (590 – P, A, B, C,) can be used in Toolkit and the contract support documents as specific practices.

FINANCIAL INCENTIVES

Each program (Environmental Quality Incentive Program, Conservation Security Program, etc) may have different payment rates for these levels. Consult program guidance for specific payment rates.

PROGRESS REPORTING

Under the current Progress Reporting Management System (PRMS), nutrient management planning (590P) can either be reported as:

Beneficial Conservation Treatment Planned – if a stand alone practice.

or

RMS planned – if nutrient management is part of a complete RMS plan

Application efforts (590 A,B, or C) can be reported as Adequate Conservation Treatment Applied on Land. If Levels B or C encompass all of the items contained in the nutrient management plan and all other conservation practices have been applied, RMS treatment applied can be used.